AMENDMENTS TO THE SPECIFICATION:

Kindly replace the paragraph on page 1, lines 14-26, with the following paragraph:

Gene therapy can be defined as the transfer of genetic material into a cell or an organism. The possibility of treating human disorders by gene therapy has changed in a few years from the stage of theoretical considerations to that of clinical applications. The first protocol applied to man was initiated in the USA in September 1990 on a patient suffering from adenine deaminase (ADA) deficiency. This first encouraging experiment has been followed by numerous new applications and promising clinical trials based on gene therapy which are currently ongoing (see for example clinical trials listed at ~~http://~~cnetdb.nci.nih.gov/trialsrch.shtml or ~~http://~~www.wiley.co.uk/genetherapy/clinical/).

Kindly replace the paragraph on page 35, lines 1-13, with the following paragraph:

electronic devices. For example the public database "Medline" may be utilized which is available on Internet, e.g. under ~~http://~~www.ncbi.nlm.nih.gov/PubMed/medline.html. Further databases and addressed, such as ~~http://~~www.ncbi.nlm.nih.gov, ~~http://~~www.infobiogen.fr, ~~http://~~www.fmi.ch/biology/research_tools.html, ~~http://~~www.tigr.org, are known to the person skilled in the art can also be obtained using, e.g., ~~http://~~www.lycos.com. An overview of patient information in biotechnology and a survey a survey of relevant sources of patent information useful for retrospective searching and for current awareness is given in Berks, TIBTECH 12 (1994), 352-364.

Kindly replace the paragraph on page 37, lines, 7-19, with the following paragraph:

Figure 9: Liposome leakage assay. Increasing amounts of the indicated peptides were incubated with POPC/Cholesterol (3:2 mol/mol) liposomes for 30 min at RT. Emitted fluorescence was plotted against peptide concentration. A) Comparison of ppTG1, JTS-1-K13, KALA and JTS-1 at pH5 (Figure (A-2) and pH7 (Figure 9A-1). B) Liposome leakage activity with complexes of ppTG1 and the plasmid pTG11236 at pH7. C) Comparison of ppTG1, ppTG20 and ppTG21 at pH7. D) Comparison of ppGT1, ppTG20-D, ppTG22, ppTG23 and ppTG24 at pH7. E) Comparison of ppTG1 with ppTG25, ppTG26 and ppTG27 at pH7. F) Comparison of ppTG1 with the series of peptides ppTG28 to ppTG33 at pH7. G) Comparison of ppTG1 and ppTG20 with PEG-ppTG1 and PEG-ppTG20 at pH7.

Kindly replace the paragraph on page 37, lines 21-32, with the following paragraph:

Figure 10: Transfection studies in vitro. A) The human tumor cell lines WiDr, MDA-MB-435S, SW480 and LoVo were transfected with 500ng or 50ng of the luciferase expression plasmid Ptg11236 USING PPtg1 at different charge ratios, PEI, Lipofectin and pcTG90/DOPE. The results of the luciferase assay at day 1 after transfection are indicated. B) to G) HeLa cells were transfected with 50 ng Ptg11236 using the indicated peptides at increasing charge ratios [P/N]. B) ppTG1, ppTG20 and ppTG21. C) ppTG25, ppTG26 and ppTG27. D) ppTG1 and the series ppTG28 to ppTG33. Figure 10D-1 shows ppTG1 and ppTG28 to ppTG30. Figure 10D-2 shows ppTG1 and ppTG31 to ppTG33. E) ppTG1, PEG-ppTG1 and PEG-ppTG20. F) ppTG1, ppTG22, ppTG23 and ppTG24. G) ppTG1 and ppTG20-D.

Kindly replace the paragraph on page 55, lines 27-36, with the following paragraph:

Example ~~11~~ 12: Studies on the mechanism of gene transfer with ppTG1

Bafilomycin A is a specific inhibitor of the vacuolar proton pump. Treatment with Bafilomycin inhibits the acidification of late endosomes. HeLa cells were treated with Bafilomycin A (175 nM) 30 min before and throughout the transfection (1 h incubation with transfection complexes in the absence of serum). $6x10^4$ cells were transfected with 150 ng pTG11236 PEI or ppTG1. The luciferase assay was performed 1 day after transfection.

Kindly replace the paragraph on page 56, lines 7-18, with the following paragraph:

Example ~~12~~ 13: In vivo studies

The potential of gene transfer with mono-component peptide vectors was investigated *in vivo*. Fifty or sixty µg of the luciferase expression plasmid pTG11236 were complexed with pcTG90 / DOPE (1:2) [=/-] 10 in 250 µl 5% glucose Meyer *et al.* 2000). The resulting lipoplex vector served as a reference for gene transfer studies with pTG11236 complexed with ppTG1, ppTG20 and ppTG32 in 250 µl 5% glucose. Five mice per group were intravenously injected, the animals were sacrificed at day 1 after injection. Lungs were tested for luciferase activity. The results are shown in Figure 11.